



## time delay timer

pages 2-3

The Delay Timer provides a delay between the closing of one circuit and the subsequent operation of the timer load switch. This function is the most common timed function, therefore the Delay timer is offered in the largest variety of sizes, time cycles, mounting styles. The Time Delay can be generated by a synchronous motor, bi-metal, or solid state circuit, and these types are available from this catalog.



## program cam timers

pages 4-5

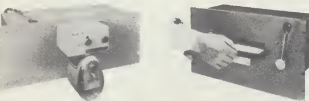
The Program Cam Timer operates one or more load switches in a pre-set sequence. The sequence can be continuously recycling, or one single rotation of the cam shaft. These units are powered by a synchronous motor, through a gear rack and hence to the cam shaft.



## interval timers

page 6

An interval Timer closes a load switch at the beginning of its time cycle and opens this switch at the completion of the time interval. An Interval Timer closes a load switch at the beginning of its time are available either panel mount, or as table top models.



## tape programmers/ card readers

page 7

Many multiswitch applications are sufficiently complex in nature as to require sequencing through the medium of punched tape. The Punched Tape Programming units described on page 7 are of a new design exceptionally flexible in their use, yet quite low in cost. TAB card control of multi circuit devices is made possible through the use of the Series 4000 Static Card reader.



## time measurement devices

page 8

A complete line of elapsed time meters for use on A.C. or D.C. is described on page 8. In addition, electric stop clocks for measuring intervals as low as 1/100 second are offered.

**INDUSTRIAL  
TIMER**  
CORPORATION



# TIMING CONTROLS

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# time delay timers

Three basic methods are employed to generate a Time Delay: synchronous motor, Thermal Bi-Metal, and electronic. The Series GTD, MTD, TD/CTD, H/CH, SF/CSF, TDAB, and Series RB generate the Delay function from a synchronous motor. This Delay is created by applying power to the timer motor/clutch circuit with a sustained switch closure (sustained is interpreted as simply being longer in length than the desired delay). When the timer receives power it begins a delay period, at the end of which occurs a switch operation. The load switch remains in the operated condition until power is removed from the timer, at which time the timer auto-

matically resets.

In Models TD, H, MTD, SF, and RB in time cycles under 5 minutes a clutch/motor is used and the operating circuit is illustrated as "Circuit A".

In Models GTD, CTD, CH, CSF, TDAB and TDAB an external clutch is used to couple the motor to the timing mechanism during the time cycle. Model MTD above 30 seconds also is equipped with the external clutch, and this and the aforementioned timers operate with the "Circuit B".

## SERIES GTD

The Series GTD is an appearance engineered timer designed to complement today's modern machinery. This unit provides a switch closure at the completion of a timed delay in an extremely wide selection of time cycles from 3 seconds to 60 hours or more. A clutching mechanism between the heavy duty synchronous motor and the load switch assures instant start, and immediate reset. Mounting is simple: A 3 inch hole in your panel is all that is required. A single screw under the flange of the timer face tightens a bracket against the edge of the panel hole.

As an optional feature the GTD can be supplied with a reverse clutching mechanism. This feature permits the unit to remain in the operate position if the control circuit is de-energized due to a power failure.

Load contacts are snap action SPDT, isolated. Contacts are rated at 10 amps. non-inductive. The GTD is available for 115/60, 115/50, 220/60 or 230/50. Other voltages available, contact factory.

### TIME CYCLE CHART

| Model   | Max. Time  | Min. Time & Calibration |
|---------|------------|-------------------------|
| GTD-3S  | 3 seconds  | 1/20 second             |
| GTD-6S  | 6 seconds  | 1/10 second             |
| GTD-15S | 15 seconds | 1/4 second              |
| GTD-30S | 30 seconds | 1/2 second              |
| GTD-60S | 60 seconds | 1 second                |
| GTD-3M  | 3 minutes  | 3 seconds               |
| GTD-5M  | 5 minutes  | 5 seconds               |
| GTD-15M | 15 minutes | 15 seconds              |
| GTD-30M | 30 minutes | 30 seconds              |
| GTD-60M | 60 minutes | 1 minute                |
| GTD-3H  | 3 hours    | 3 minutes               |

Note: Time cycles exceeding three hours are available. Please consult factory for details.



## SERIES MTD

The Series MTD Time Delay Timer represents a new appearance concept for timing controls. This new timer is designed to match modern panel instruments, so commonly found on the finest automatic machines. The MTD features a rugged plastic face which protects the setting and progress indicators from dust and damage. When used alone or in conjunction with other instruments, the Series MTD will contribute to equipment appearance as well as performing its control function.

The control function of the Series MTD is one of providing a predetermined timed delay between the closing of one load circuit and the subsequent operation of the timer isolated load switch. The load contacts are 10 amp. SPDT snap action and are brought out to snap on terminals located at the rear of the timer. Mounting is through a 3" round hole in a panel and secured by means of a bracket screwed to the rear of the timer.

### TIME CYCLE CHART

| Model    | Max. Time  | Min. Time   |
|----------|------------|-------------|
| MTD-6S   | 6 seconds  | 1/10 second |
| MTD-15S  | 15 seconds | 1/4 second  |
| MTD-30S  | 30 seconds | 1/2 second  |
| *MTD-60S | 60 seconds | 1 second    |
| *MTD-3M  | 3 minutes  | 3 seconds   |
| *MTD-5M  | 5 minutes  | 5 seconds   |
| *MTD-15M | 15 minutes | 15 seconds  |
| *MTD-30M | 30 minutes | 30 seconds  |
| *MTD-60M | 60 minutes | 1 minute    |
| *MTD-3H  | 3 hours    | 3 minutes   |

Note: All dials have 60 calibrations regardless of time cycle. \*Models with clutch external to synchronous motor.



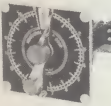
## SERIES TD/CTD

The Series TD is a cased time delay timer which mounts through a 3 3/16" hole in a panel. The timer is secured to the panel with a bracket which mounts to the rear of the timer and clamps the unit to the panel. The TD offers 10 amp. SPDT snap action load contacts, isolated from the timing movement. Two models within the TD category are available, dependent upon time cycle. The models under 1 minute use a clutch/motor, whereas 1 minute up to 5 minutes use an external clutch that provides rapid reset. Voltages of 115/60, 115/50, 220/60, or 220/50 are available.



## SERIES H/CH

The Series H time delay timer is designed for panel mounting with the dial of the timer fastened to the panel with four screws. Wiring is accomplished to a terminal strip at the rear of the unit. Load circuit rating is 10 amps., non-inductive 115/60 through SPDT snap action contacts. The Series H is available with an external clutch for time cycles above 1 minute; those models with time cycles below one minute employ a clutch/motor. Voltages are 115/60, 115/50, 220/60 or 220/50.



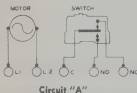
### Time Cycle Chart For Series TD/CTD • H/CH • SF/CSF

| Model Number |       |         | Time Cycle | Dial Division |
|--------------|-------|---------|------------|---------------|
| TD-6S        | H-6S  | S F-6S  | 6 sec.     | 1/10 sec.     |
| TD-15S       | H-15S | S F-15S | 15 sec.    | 1/4 sec.      |
| TD-30S       | H-30S | S F-30S | 30 sec.    | 1/2 sec.      |
| CTD-1M       | CH-1M | CS F-1M | 60 sec.    | 1 sec.        |
| CTD-3M       | CH-3M | CS F-3M | 3 min.     | 3 sec.        |
| CTD-5M       | CH-5M | CS F-5M | 5 min.     | 5 sec.        |

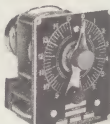
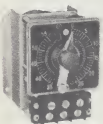
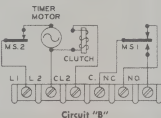
Note: For longer time cycles, consult factory.

# WIRING DIAGRAMS:

for timers equipped with clutch motor



for timers with external clutch and prefix "C"



## SERIES TDAB TDAF

The Series TDAB is a back mounted delay timer featuring an external clutch, designed for the most demanding and accurate applications. This exclusive clutch enables the timer to be offered in a wide range of time cycles, ranging from 1 second to 3 hours in 12 individual models. The TDAB clutch also features an automatic reset which allows the complete timing/switching movement of the timer to reset in less than 0.2 of a second. Switch rating is 10 amps., SPDT, snap action contacts rated at 115/60 non-inductive. The TDAB is also available in a steel knockout housing. Please specify if required.

The Series TDAF is a panel mounted, automatic reset timer employing the same rugged movement as the Series TDAB. It is commonly used in applications requiring high repetitive accuracy, fast reset, and heavy usage.

### TIME CYCLE CHART

| Model Suffix | Max. Time Cycle | Dial Div. | Model Suffix | Max. Time Cycle | Dial Div. |
|--------------|-----------------|-----------|--------------|-----------------|-----------|
| 1S           | 1 sec.          | 1/60 sec. | 3M           | 3 min.          | 3 sec.    |
| 3S           | 3 sec.          | 1/20 sec. | 5M           | 5 min.          | 5 sec.    |
| 6S           | 6 sec.          | 1/10 sec. | 15M          | 15 min.         | 15 sec.   |
| 15S          | 15 sec.         | 1/4 sec.  | 30M          | 30 min.         | 30 sec.   |
| 30S          | 30 sec.         | 1/2 sec.  | 60M          | 60 min.         | 60 sec.   |
| 60S          | 60 sec.         | 1 sec.    | 3H           | 3 hrs.          | 3 min.    |

## SERIES SF/CSF

The Series SF/CSF is one of industry's most versatile compact time delay timers. The unit offers dial adjustability, automatic reset, external clutching (in models with prefix "C"), and 10 amp. SPDT snap action load contacts. The Series SF/CSF is a small, back mounted timer, designed for applications where adjustment is infrequent but required. Two timing movements are employed in this series; a clutch motor is used on models with time cycles under 60 seconds, and an external clutch is employed for models having 1 minute or more time cycle.

Voltages are 115/60, 115/50, 220/60, or 220/50.



### CUSTOM DIAL SERVICE

Proprietary on private label dials available for all panel mounted timers. Contact factory for details.

## time delay timers

9b  
In

## SERIES RB



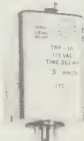
The Series RB features an injection molded case of a material specifically designed for complete insulation, dimensional stability and strength. The internal mechanism is totally enclosed.

The unit can be back mounted with steel brackets supplied with the timer. These mounting feet can be removed for applications requiring a panel mounted unit.

### TIME CYCLE CHART

| Model   | Minimum Setting | Maximum Setting      |
|---------|-----------------|----------------------|
| RB-5.6S | .2 second       | 5.6 seconds          |
| RB-14S  | 1/2 second      | 14 seconds           |
| RB-28S  | 1 second        | 28 seconds           |
| RB-56S  | 2 seconds       | 56 seconds           |
| RB-14S  | 3 seconds       | 84 seconds           |
| RB-168S | 6 seconds       | 168 seconds          |
| RB-4.5M | 10 seconds      | 4 minutes 40 seconds |

## ■ electronic SERIES TRP



The Series TRP is a plug-in, adjustable delay relay incorporating an electronic delay circuit. This model provides a pre-set delay between the closing of a circuit and the subsequent operation of the built-in SPDT contacts. Contact rating is 5 amps., rated at 115/60 Non inductive. The unit resets instantaneously upon the opening of the start circuit. Adjustment is accomplished with a screw secured with a lock nut located on the top of the timer. 5 models with time cycles ranging from 1/10 second to 60 seconds are available. Load contacts isolated from timing circuit. Available for start circuit of 115/60 only.

### TIME CYCLE CHART

| Model  | Minimum Setting | Maximum Setting |
|--------|-----------------|-----------------|
| TRP-5  | 0.1 sec.        | 5 seconds       |
| TRP-10 | 0.1 sec.        | 10 seconds      |
| TRP-15 | 0.1 sec.        | 15 seconds      |
| TRP-30 | 0.1 sec.        | 30 seconds      |
| TRP-60 | 0.1 sec.        | 60 seconds      |

Note: Time cycles exceeding 60 seconds available, contact factory for details.

## SERIES TH



The Series TH is a thermally actuated snap action switch. The isolated load switch has a rating of 10 amps., non-inductive, and is totally enclosed. The timer is operated by the application of power to a resistor which in turn generates heat. The heat is transferred to a bi-metal strip which flexes against a switch actuator. The time delay occurs between the application of voltage to the resistor and the subsequent operation of the load switch. An additional bi-metal strip provides ambient temperature compensation. Reset time is from 2 to 4 times operating time, dependent upon model. Available in all voltages, AC and DC. Time Cycles—15 sec., 30 sec., 60 sec., 90 sec., 2 min., maximum.

# programming cam timers

## motors

Heavy duty synchronous motors, U/L and CSA approved. These motors are available in any of thirteen standard speeds. In cases where short time cycles are required of a higher torque motor is used. On the MC-O and RC-O Multi Cam Timers a High Torque motor is standard. These motors are built and guaranteed for long trouble-free performance.

## switches

Single pole double throw snap action, U/L and CSA approved, totally enclosed. The switches are mounted on individual brackets, permitting removal of each switch without disassembling the entire switch bank. The switch contacts are rated at 10 amps non-inductive AC.

## electrical characteristics

The Cam Timer Series can be supplied for 115 volt or 220 volt AC operation on 25, 50, 60 or 400 cycle frequencies. (As well as 6, 12, 24, & 30 volts DC).

## gear rack assemblies

50 standard ratio gear and rack assemblies are stocked for changing overall time cycles on the Cam Timer Series. These assemblies may be changed by removing a 5/40 screw, setting the rack into the recess, and retightening the screw. Refer to chart for particular time cycle and gear rack assembly.

## individual cam adjustment (series CM, MC, RC only)

Standard cam construction is such that the ON or OFF periods may be adjusted from 2% to 98% of the total time cycle. Cam adjustment consists of loosening the nut on the face of the plate, rotating the movable cam segment to the percentage of ON or OFF period desired, and then tightening the nut. The cams are made of corrosion resistant aluminum.

## timing sequence (MC, RC only)

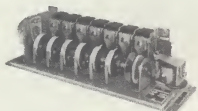
Each cam is individually mounted on the shaft by means of a heavy duty friction disc which allows easy finger adjustment of timing sequences. Individual positioning of the cam is also made possible without the use of set screws and wrenches, and permits rapid adjustment. On the Series MC and RC Multi Cam models a drum calibrated from 0% to 100% is mounted on each cam, this drum in conjunction with a mounted pointer acts as a guide when setting related programmed sequences; thus providing a reference point for use during the cycle.

## ordering information

When ordering a Cam Timer please specify the following information:

1. Voltage and frequency of motor current.
2. Number of switches desired.
3. Time cycle selected from chart. (refer to motor number plus gear rack number. Example: MC4 Timer with C-12. Gear Rack.)

### ■ single cycle multi-cam timer



## SERIES RC

The Series RC Timer is designed to provide a single timed electrical cycle upon momentary actuation from a remote position. The cam is a circular plate notched at one point in its circumference. Coincident with this notch is a small plate or a pawl. This plate is contoured to the periphery of the cam, and pressed against the cam face by a spring and a stud. Upon actuation, the relay mechanically disengages a lever from the cam notch, simultaneously starting the motor. During the revolution of the cam, the relay lever rides on the circumference of the cam. At the end of the revolution, the pawl guides the lever into the notch, stopping the motor after completing one revolution. The single switch handles the timer motor and the external load circuits, limited only by switch rating. The RC Multi Cam Timer operates from 1 to 20 additional circuits. This design enables the user to have all the advantages of the Series MC, plus single cycle timing control.

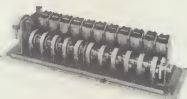
### ■ recycling timer



## SERIES CM

The Series CM Timer repeats a continuous, adjustable ON and OFF electrical cycle. This timer consists of a heavy duty synchronous motor, adjustable cam, and single pole, double throw snap action switch, assembled on a base mount chassis. The cam is coupled to the motor by means of a simple gear and rack assembly, which can be changed by the user. Standard cam construction is such that the ON-OFF cycle may be adjusted from 2% to 98% of the total time cycle. The cam is calibrated in percentage for quick accurate adjustment. 50 stocked gear and rack assemblies are available for time cycles from 40 cycles (2/3 of a second) to 1 rev. in 72 hours.

### ■ multi-cam recycling timer



## SERIES MC

The MC Multi Cam Timer is identical in operation to the CM timer but controls from 2 to 20 circuits. The cams are mounted on a single driving shaft, coupled to the motor by a gear and rack assembly. Each cam is independently adjustable for 2% to 98% of the total time cycle. Individual cam adjustability enables the timer to be used as a programming device. The cams can be adjusted in any combination of timed sequences rapidly and easily. Total revolution time is determined by motor speed and the interchangeable gear and rack assembly.

## GEAR RACK CHART: all gear racks interchangeable regardless of model number

| MODEL                 | CM 0   | CM 1   | CM 2   | CM 3   | CM 4   | CM 5   | CM 6   | CM 7   | CM 8    | CM 9    | CM 10  | CM 11  | CM 12  | MODEL     |
|-----------------------|--------|--------|--------|--------|--------|--------|--------|--------|---------|---------|--------|--------|--------|-----------|
| MODEL                 | MC 0   | MC 1   | MC 2   | MC 3   | MC 4   | MC 5   | MC 6   | MC 7   | MC 8    | MC 9    | MC 10  | MC 11  | MC 12  | MODEL     |
| MODEL                 | RC 0   | RC 1   | RC 2   | RC 3   | RC 4   | RC 5   | RC 6   | RC 7   | RC 8    | RC 9    | RC 10  | RC 11  | RC 12  | MODEL     |
| Gear Rack SEE NOTE 2* |        |        |        |        |        |        |        |        |         |         |        |        |        | Gear Rack |
| E-12                  | 40c    | 4 sec  | 10sec  | 20s    | 40s    | 2m     | 3m20s  | 10m    | 20m     | 40m     | 2h     | 3h20m  | 8h     | E-12      |
| E-14                  | 46.7c  | 4.67s  | 11.67s | 23.33s | 46.67s | 2m20s  | 3m53s  | 11m40s | 23m20s  | 46m40s  | 2h20m  | 3h53m  | 9h20m  | E-14      |
| D-12                  | 48c    | 4.8s   | 12s    | 24s    | 48s    | 2m24s  | 4m     | 12m    | 24m     | 48m     | 2h24m  | 4h     | 9h36m  | D-12      |
| E-15                  | 50c    | 5 sec  | 12.5s  | 25s    | 50s    | 2m30s  | 4m10s  | 12m30s | 25m     | 50m     | 2h30m  | 4h10m  | 10h    | E-15      |
| E-16                  | 53.3c  | 5.33s  | 13.33s | 26.67s | 53.3s  | 2m40s  | 4m27s  | 13m20s | 26m40s  | 53m20s  | 2h40m  | 4h27m  | 10h40m | E-16      |
| D-14                  | 56c    | 5.6s   | 14s    | 28s    | 56s    | 2m48s  | 4m40s  | 14m    | 28m     | 56m     | 2h48m  | 4h40m  | 11h12m | D-14      |
| C-12                  | 1 sec  | 6 sec  | 15s    | 30s    | 60s    | 3m     | 6m     | 15m    | 30m     | 60m     | 3h     | 6h     | 12h    | C-12      |
| D-16                  | 64c    | 6.4s   | 16s    | 32s    | 64s    | 3m12s  | 5m20s  | 16m    | 32m     | 64m     | 3h12m  | 5m20m  | 12h48m | D-16      |
| E-20                  | 66.7c  | 6.67s  | 16.67s | 33.33s | 66.67s | 3m20s  | 5m33s  | 16m40s | 33m20s  | 66m40s  | 3h20m  | 5h33m  | 13h20m | E-20      |
| C-14                  | 70c    | 7s     | 17.5s  | 35s    | 70s    | 3m30s  | 5m50s  | 17m30s | 35m     | 70m     | 3h30m  | 5h50m  | 14h    | C-14      |
| D-18                  | 72c    | 7.2s   | 18s    | 36s    | 72s    | 3m36s  | 6m     | 18m    | 36m     | 72m     | 3h36m  | 6h     | 14h24m | D-18      |
| E-22                  | 73.3c  | 7.33s  | 18.33s | 36.67s | 73.33s | 3m40s  | 6m7s   | 18m20s | 36m40s  | 73m20s  | 3h40m  | 6h7m   | 14h40m | E-22      |
| C-15                  | 75c    | 7.5s   | 18.75s | 37.5s  | 75s    | 3m45s  | 6m15s  | 18m45s | 37m30s  | 75m     | 3h45m  | 6h15m  | 15h    | C-15      |
| B-12                  | 80c    | 8 sec  | 20s    | 40s    | 80s    | 4m     | 6m40s  | 20m    | 40m     | 80m     | 4h     | 6h40m  | 16h    | B-12      |
| E-26                  | 86.7c  | 8.67s  | 21.67s | 43.33s | 86.67s | 4m20s  | 7m13s  | 21m40s | 43m20s  | 86m40s  | 4h20m  | 7h13m  | 17h20m | E-26      |
| D-22                  | 88c    | 8.8s   | 22s    | 44s    | 88s    | 4m24s  | 7m20s  | 22m    | 44m     | 88m     | 4h24m  | 7h20m  | 17h36m | D-22      |
| C-18                  | 90c    | 9 sec  | 22.5s  | 45s    | 90s    | 4m30s  | 7m30s  | 22m30s | 45m     | 90m     | 4h30m  | 7h30m  | 18h    | C-18      |
| B-14                  | 93.3c  | 9.33s  | 23.33s | 46.67s | 93.33s | 4m40s  | 7m47s  | 23m20s | 46m40s  | 93m20s  | 4h40m  | 7h47m  | 18h40m | B-14      |
| D-24                  | 96c    | 9.6s   | 24s    | 48s    | 96s    | 4m48s  | 8m     | 24m    | 48m     | 96m     | 4h48m  | 8h     | 19h12m | D-24      |
| B-15                  | 100c   | 10 sec | 25s    | 50s    | 100s   | 5m     | 8m20s  | 25m    | 50m     | 100m    | 5h     | 8h20m  | 20h    | B-15      |
| D-26                  | 104c   | 10.4s  | 26s    | 52s    | 104s   | 5m12s  | 8m40s  | 26m    | 52m     | 104m    | 5h12m  | 8h40m  | 20h48m | D-26      |
| B-16                  | 106.7c | 10.67s | 26.67s | 53.33s | 106.7s | 5m20s  | 8m54s  | 26m40s | 53m20s  | 106m40s | 5h20m  | 8h54m  | 21h20m | B-16      |
| C-22                  | 110c   | 11 sec | 27.5s  | 55s    | 110s   | 5m30s  | 9m10s  | 27m30s | 55m     | 110m    | 5h30m  | 9h10m  | 22h    | C-22      |
| D-28                  | 112c   | 11.2s  | 28s    | 56s    | 112s   | 5m36s  | 9m20s  | 28m    | 56m     | 112m    | 5h36m  | 9h20m  | 22h24m | D-28      |
| E-34                  | 113.3c | 11.33s | 28.33s | 56.67s | 113.3s | 5m40s  | 9m27s  | 28m20s | 56m40s  | 113m20s | 5h40m  | 9h27m  | 22h40m | E-34      |
| A-12                  | 2 sec  | 12 sec | 30s    | 60s    | 2m     | 6m     | 10m    | 30m    | 60m     | 2h      | 6h     | 10h    | 24h    | A-12      |
| D-32                  | 258c   | 12.78s | 32s    | 64s    | 128s   | 6m24s  | 10m40s | 32m    | 64m     | 128m    | 6h24m  | 10h40m | 25h36m | D-32      |
| C-26                  | 71.9c  | 13 sec | 32.5s  | 65s    | 130s   | 6m30s  | 10m50s | 32m30s | 65m     | 130m    | 6h30m  | 10h50m | 26h    | C-26      |
| B-20                  | 281.2c | 13.2s  | 33.33s | 66.67s | 133.3s | 6m40s  | 11m7s  | 33m20s | 66m40s  | 133m20s | 6h40m  | 11h7m  | 26h40m | B-20      |
| D-34                  | 281.6c | 13.56s | 34s    | 68s    | 136s   | 6m48s  | 11m20s | 34m    | 68m     | 136m    | 6h48m  | 11h20m | 27h12m | D-34      |
| A-14                  | 2820c  | 14 sec | 55s    | 70s    | 140s   | 7m     | 11m40s | 35m    | 70m     | 140m    | 7h     | 11h40m | 28h    | A-14      |
| D-36                  | 2824c  | 14.4s  | 36s    | 72s    | 144s   | 7m12s  | 12m    | 36m    | 72m     | 144m    | 7h12m  | 12h    | 28h48m | D-36      |
| B-22                  | 2827c  | 14.7s  | 36.75s | 73.5s  | 146.7s | 7m20s  | 12m13s | 36m40s | 73m20s  | 146.7m  | 7h20m  | 12h13m | 29h20m | B-22      |
| A-15                  | 2830c  | 15 sec | 37.5s  | 75s    | 150s   | 7m30s  | 12m30s | 37m30s | 75m     | 150m    | 7h30m  | 12h30m | 30h    | A-15      |
| A-16                  | 2840c  | 16 sec | 40s    | 80s    | 160s   | 8m     | 13m20s | 40m    | 80m     | 160m    | 8h     | 13h20m | 32h    | A-16      |
| C-34                  | 2850c  | 17 sec | 42.5s  | 85s    | 170s   | 8m30s  | 14m10s | 42m30s | 85m     | 170m    | 8h30m  | 14h10m | 34h    | C-34      |
| B-26                  | 2852c  | 17.2s  | 43.33s | 86.67s | 173.3s | 8m40s  | 14m27s | 43m20s | 86m40s  | 173.3m  | 8h40m  | 14h27m | 34h40m | B-26      |
| A-18                  | 3 sec  | 18 sec | 45s    | 90s    | 3m     | 9m     | 15m    | 45m    | 90m     | 3h      | 9h     | 15h    | 36h    | A-18      |
| B-28                  | 367c   | 18.7s  | 46.75s | 93.5s  | 187s   | 9m20s  | 15m33s | 46m40s | 93m20s  | 187m    | 9h20m  | 15h33m | 37h20m | B-28      |
| A-20                  | 2820c  | 20 sec | 50s    | 100s   | 200s   | 10m    | 16m40s | 50m    | 100m    | 200m    | 10h    | 16h40m | 40h    | A-20      |
| B-32                  | 3633c  | 21.3s  | 53.33s | 106.7s | 213.4s | 10m40s | 17m47s | 53m20s | 106m40s | 213.4m  | 10h40m | 17h47m | 42h40m | B-32      |
| A-22                  | 3640c  | 22 sec | 55s    | 110s   | 220s   | 11m    | 18m20s | 55m    | 110m    | 220m    | 11h    | 18h20m | 44h    | A-22      |
| B-34                  | 3647c  | 22.7s  | 56.67s | 113.3s | 226.7s | 11m20s | 18m53s | 56m40s | 113m20s | 226.7m  | 11h20m | 18h53m | 45h20m | B-34      |
| A-24                  | 4 sec  | 24 sec | 60s    | 2m     | 4m     | 12m    | 20m    | 60m    | 2h      | 4h      | 12h    | 20h    | 48h    | A-24      |
| A-26                  | 4520c  | 26 sec | 65s    | 130s   | 260s   | 13m    | 21m40s | 65m    | 2h10m   | 4h20m   | 13h    | 21h40m | 52h    | A-26      |
| A-28                  | 4540c  | 28 sec | 70s    | 140s   | 280s   | 14m    | 23m20s | 70m    | 2h20m   | 4h40m   | 14h    | 23h20m | 56h    | A-28      |
| A-30                  | 5 sec  | 30 sec | 75s    | 150s   | 5m     | 15m    | 25m    | 75m    | 2h30m   | 5h      | 15h    | 25h    | 60h    | A-30      |
| A-32                  | 5520c  | 32 sec | 80s    | 160s   | 320s   | 16m    | 26m40s | 80m    | 2h40m   | 5h20m   | 16h    | 26h40m | 64h    | A-32      |
| A-34                  | 5540c  | 34 sec | 85s    | 170s   | 340s   | 17m    | 28m20s | 85m    | 2h50m   | 5h40m   | 17h    | 28h20m | 68h    | A-34      |
| A-36                  | 6 sec  | 36 sec | 90s    | 3m     | 6m     | 18m    | 30m    | 90m    | 3h      | 6h      | 18h    | 30h    | 72h    | A-36      |

c-CYCLES s-SECONDS m-MINUTES h-HOURS

1. ORDERING INFORMATION — Model number selected from top of gear rack chart, gear rack, number of load switches, voltage and frequency.

ALTERNATE ORDERING INFORMATION — Required time cycle (one complete rotation of cam shaft), number of load switches, voltage and frequency. Since some time cycles are available in 3 model numbers, the use of the ALTERNATIVE ordering information may expedite delivery by allowing us to ship model in stock with required time cycle.

2. Multi-switch cam timers requiring time cycles in shaded area may require high torque timing motor. This is due to increased torque encountered in rapid time cycles. To determine need of larger motor, multiply required time cycle in seconds by  $\frac{1}{3}$ , the answer will be the maximum

number of switches that can be operated with a standard timing motor. EXAMPLE: Time cycle 15 seconds.  $\frac{1}{3} \times 15s = 10$ . 10 switches can be operated at 15 seconds with a standard timing motor, more than 10 load switches requires the use of a high torque timing motor. Because of torque requirements some RC0, MC0, RC1 and MC1 timers require the installation of a high torque motor. For RC0 and MC0 timers the high torque motor adds \$27.50 to the price of the timer. For those RC1 and MC1 timers requiring a high torque motor add \$29.50 — see formula\*. If there is any question of when the high torque motors are required please contact the factory for advice.



## interval timer

An interval timer closes its load circuit immediately upon the start of the time period. This circuit is closed (or opened) during the time that the timer is running for the pre-selected period. When this is completed, the load circuit opens and the timer automatically resets. Interval timers are designed to start from a momentary

pulse. However, a sustained start circuit can be used. If the start circuit is still closed at the end of the time cycle, the load circuit will return to its normal position, but the timer will not reset until the start circuit is broken. At this time, the reset will occur and the timer is again ready for another cycle.



### SERIES PAB (PAF)

The Series PAB Timer is an extremely accurate timing mechanism built to stand up under the hard usage and demanding standards that modern manufacturing processes require.

Due to the simplicity and reliability of a special clutching mechanism it is possible to offer the Series PAB with a range of timing from the PAB 1S with a 1 second overall range in 1/60 second increments, to the PAB 3H timer with a range of 3 minutes to 3 hours, calibrated in 3 minute steps.

The series PAF is similar in construction but is panel mounted.



### SERIES RS

The Series RS Interval timer is a manual set timer capable of handling a full 20 ampere load without the use of external relays. The Series RS is completely enclosed, silent in operation and has a simple knob for time setting and elapsed time indication. Available in the variety of time cycles shown on chart. Available in 115, or 230 volt, 25, 50, 60, or 400 cycle current. (Also 6-30 VDC) 18" color coded leads provided through back of housing. Knockout housing available as optional equipment.

*Shipping weight—2 pounds—in case  
3 pounds*



### SERIES P/M

The Series P Timer is a multi-purpose interval timer, equipped with an A.C. input cord, built in manual start push button, and two receptacles. The RED receptacle is provided on the side of the case for REMOTE STARTING. The BLACK receptacle receives plug in LOAD circuits. Keyholes are provided in the back of the case for wall mounting. Load contact rating is 15 amps, non-inductive.

Available for 115, 230 volts, 60, 50, or 25 cycles.

Series M Timers follow the same description as the Series P except that they are not equipped with a remote start and have a load rating of 10 amps. 115, 230 volts, 60, 50, or 25 cycles.

*Shipping weight—3 pounds*



### SERIES S

The Series S Signaling timer is a multi-purpose process timer that provides an audible signal at the end of either a time interval or a time delay. Two receptacles are provided on the side of the case: a black receptacle for a load or remote signal to operate at the end of the cycle, and a red receptacle to operate a load circuit during the time cycle. Timer is also equipped with a line cord. Snap action contacts are rated at 10 amps. 115, 230 volts, 60, 50, or 25 cycles.

*Shipping weight—3 pounds*



### SERIES PBM

pushbutton start

The Series PBM is an automatic reset, pushbutton operated Interval timer. The unit is panel mounted through a square hole, and secured with four screws. The PBM features extreme repeat accuracy and exceptional long life, both made possible through the use of a positive acting infinite engagement clutch which connects the switch actuator with the heavy duty synchronous motor. The unit also features an attractive glass faced dial with adjustment knob and start button combined in one assembly. Time interval or progress indication is located in the dial with a moving red pointer.



### SERIES LVR

pushbutton interval

The Series LVR is a pushbutton Interval Timer specifically designed for OEM applications. This timer operates a set of 25 amp. SPDT contacts when the pushbutton is depressed and released, and opens the contacts at the completion of a pre-set time interval. The timer automatically resets and restarts when the pushbutton is again operated.

The timer is mounted through a panel with only the pushbutton and setting knob appearing on the panel. The dial of the timer would then be etched or affixed to the panel itself. Dials available on special order, please contact factory for details.

# punched tape programmers

The programmers described in this Bulletin are designed to fill the need for a multi-circuit control device offering the flexibility of punched tape and a direct reading system that eliminates the requirement for elaborate memory devices, or special coding.

A unique method of reading and controlling load circuits is employed in these programmers. This method uses brushes which complete a load circuit through a hole in the tape. These brushes are so designed as to provide a "make before break" switch closure when two or more holes are read in a tape channel. This switch closure is sustained for as long as the channel is punched with successive holes.

The punched tape is driven by one of three methods: A synchronous motor, a stepping/fast advance drive, or a variable speed drive. Reading speeds as fast as 30 lines per second are available with one of these three drives.

Since the Tape Programmers are direct reading, the tape must be rugged, have a high insulation capacity, and eliminate static electricity. Hence a special rope paper/mylar laminate tape was developed which not only has the required qualities, but also has a surface texture that continuously cleans the brush ends, adding to the reliability of the system.



## MODELS 012, 112, 122, 142, AND 182 — SYNCHRONOUS DRIVE

These tape readers are driven by a synchronous motor and offer many reading speeds ranging from 1 to 30 lines per second. A simple modification of this unit uses one channel for control of the synchronous motor so that the tape will make one complete circuit through the reading head and then home to a start position. The Model 012 designates that the unit is mounted on a 6" x 6" panel. The Model 112 is mounted on a standard 7" x 19" rack panel.

## MODELS 212, 222, 242, AND 282 — STEPPING/FAST ADVANCE DRIVE

The stepping drive advances the tape through the reader line by line upon receipt of a simple switch closure. Movement of the tape occurs instantly upon receipt of a  $\frac{1}{10}$  sec. or longer pulse. A sustained switch closure will advance the tape one position. Maximum standard stepping speed is 4 lines per second.

The stepping drive system also provides a fast advance which transports the tape at a speed of 15 lines per second. The determination of step or fast advance is generally made by punched holes in the tape, using one channel to signal the unit. (Please see wiring schematic.)

Note: The fast advance speed can be supplied on special order at rates other than 15 lines per second, or adjustable from a dial located on the panel.

## MODELS 312, 322, 342, AND 382 — ADJUSTABLE SPEED DRIVE

This provides a solid state variable speed drive, adjustable from speeds from 1 to 30 lines per second in several ratios. Speed adjustment can be made while the equipment is operating. Additional speed ranges available; consult the factory.

## READING METHOD

Make before break brushes (steel with hardened tips), to common drum.

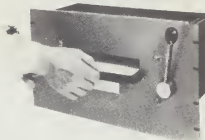
## CURRENT CAPACITY

1/4 amps, per channel, non inductive rated at 115/60.

# static card reader

The model 4000 card reader controls from 1 to 960 circuits by reading a standard TAB card. The card reader provides simultaneous access to all 960 contact pins on the output side of the card and to individual columns or rows on the input side. This provides extreme flexibility and sustained reliable service under industrial and military operating conditions.

The punched card is inserted in the reader manually, the reader is actuated either with a handle or solenoid, and contact is made through the punched holes in the card. Changing programs is easily accomplished by removing the card and re-inserting another.



## circuit readout

A maximum of 960 contact pins can be supplied to make contact through a standard TAB card to one of the following:

- A. Common circuit
- B. 12 individual lengthwise rows of the card
- C. 80 vertical columns
- D. Special variations are available since the circuit options are determined by a printed circuit, thereby permitting several voltages to be programmed

## operation

The punched card is inserted in the reader through the door in the front of the unit. Operation of the reader handle moves the card and printed circuit board with the contact pins. Handle movement at the end of the operating arc locks the reader in place by toggle action. Those areas on the card which have been punched will allow contact to be made between the contact pins and the printed circuit matrix. The material of the card prevents circuit completion in unpunched areas of the card.

Card removal is accomplished by reversing the above operation. Correct card placement is assured through a position sensing mechanism. If the card is properly placed in the reader a sensing switch will close, directing current to the reading mechanism. Improper card insertion automatically prevents reading mechanism to come into contact with card. Both conditions, GO or NO GO are indicated by lights mounted on the front surface of the card reader.

- A. Total handle travel: 150 degrees
- B. Handle travel for reader closure: 150 degrees maximum
- C. "Card in read position" limit switch actuates 30 degrees before maximum

## electrical ratings

- A. Contact pins are rated at 100 milliamperes (non-switching)
- B. Card interlock: 10 amps., rated at 115/60 non-inductive
- C. Contact pin wirings: #26 gauge
- D. Other wiring: #22 gauge
- E. Classification: NEMA 1

# time measurement devices

Running TIME meters and reset time totalizers are designed to record equipment operating time. The running time meter accumu-

lates total time whereas the reset time totalizer can be reset to 0 at any time by means of an external knob.

stop  
clocks



## MODELS SC-100/SC-60

Two models, SC-100 with a range from 1/100 sec. to 60 seconds, and the SC-60 with a range from 1 second to 60 minutes. Both models used to measure time intervals, and can be started from a remote switch closure, (see wiring schematic). Pointer reset accomplished by built-in pushbutton or remote switch closure. Finish, baked enamel on formed steel

housing. Available for 115, 220 volts/60 or 50 cycles only.

### model designation chart

| model number | minimum registration | maximum registration |
|--------------|----------------------|----------------------|
| SC-100       | 1/100 second         | 60 seconds           |
| SC-60        | 1 second             | 60 minutes           |



## MODEL C-2 NON RESET TYPE

C-2 . . . Designed to harmonize with other instruments installed on a panel. The C-2 Running Time Meter is completely enclosed, moisture and dust resistant, insuring long life and operating efficiency. Screw terminals are located on the back of the case for wiring.

All models available for 115, 220 volts, 60 and 50 cycles. Six models available from 10,000 seconds to 100,000 hours.

| models      | count     | range        |
|-------------|-----------|--------------|
| C-2, C-2S   | 1/10 hr.  | 10,000 hrs.  |
| C-2A, C-2SA | 1 hr.     | 100,000 hrs. |
| C-2D, C-2SD | 1/10 min. | 10,000 min.  |
| C-2F, C-2SF | 1 min.    | 100,000 min. |
| C-2H, C-2SH | 1/10 sec. | 10,000 sec.  |
|             | 1 sec.    | 100,000 sec. |

running  
time  
meters



## MODEL C-25 NON RESET TYPE

C-25 . . . The C-25 Running Time Meter follows the same description as the Model C-2 with the exception of its case and mounting provisions. The C-25 matches the C-5 Reset Time Totalizer in appearance and mounting.

Four ranges available from 10,000 minutes up to 100,000 hours.

| model | count     | range        |
|-------|-----------|--------------|
| C-5   | 1/10 hr.  | 10,000 hrs.  |
| C-5A  | 1 hr.     | 100,000 hrs. |
| C-5D  | 1/10 min. | 10,000 min.  |
| C-5F  | 1 min.    | 100,000 min. |



## MODEL C-5 RESET TYPE

C-5 . . . Mounted in a baked black finish steel housing. Reset wheel protrudes slightly out front of dial for thumb reset. Screw terminals on back of unit. Available for 115, 220 volt, 60 and 50 cycles.



## MODELS C-8, C-8W, D.C. UNIT

The Series C-8 and C-8W Running Time Meters are heavy duty units featuring a rugged pulse wound clock movement. At the heart of this unique movement is a large winding solenoid that is pulsed from snap action contacts. These contacts operate every 40 to 60 seconds when the unit is energized. The unit is sealed against dust and moisture

in a steel enclosure. The crystal over the dial is made of shatterproof non-yellowing plastic. The readout of the C-8 is in minutes with a sweep hand, and up to 99999 hours on the odometer. Mounting is by bracket on the Series C-8W or by flange with the C-8. Wiring connections are made on the back of the unit. 12-32 VDC.



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Printed In U.S.A.



# OEM DISCOUNTS

| Quantity | Discount | Quantity | Discount |
|----------|----------|----------|----------|
| 1-3      | Net      | 25-49    | 20%      |
| 4-5      | 5%       | 50-99    | 25%      |
| 6-11     | 10%      | 100-249  | 30%      |
| 12-24    | 15%      | 250-499  | 35%      |

Discounts in quantities of 500 and over are quoted on request.

Quantity discounts apply only to the same type of units ordered on one order.

\*Does not apply to Explosion Proof Timers, see page 4 of Price List.

# PRICE LIST

## INDUSTRIAL TIMER

CORPORATION

U.S. HIGHWAY 287

PARSIPPANY, NEW JERSEY, 07054

FEBRUARY 1965

This price list supersedes all previous price lists and is subject to change without notice. Orders will be billed at prices in effect at time of shipment.

### TIME DELAY Described in Bulletins #304 & #305

|                 | 115/50, 60 | 220/50 or 60    | OPTIONAL FEATURES                       |
|-----------------|------------|-----------------|-----------------------------------------|
| Series TD & CTD | \$30.50    | \$31.50         |                                         |
| Series H & CH   | \$26.50    | \$27.50         |                                         |
| Series SF & CSF | \$23.00    | \$24.00         |                                         |
| Series 90       | \$17.00    | \$17.50         |                                         |
| Series TDAF     | \$43.00    | \$46.00         | Reverse clutch, add \$3.00              |
| Series TDAB     | \$43.00    | \$46.00         | Far steel housing add \$6.50, TDAB only |
| Series 400      | \$38.50    | \$41.50         | Reverse clutch, add \$3.00              |
| Series TH       | \$ 8.50    | \$ 8.50         | available in any voltage                |
| Series GTD      | \$39.50    | \$41.50         |                                         |
| Series MTD      | \$30.50    | \$31.50         |                                         |
| Series TRP      | \$18.50    | Consult Factory |                                         |
| Series ELTG     | \$68.50    | Consult Factory |                                         |

### INTERVAL Described in Bulletins #403, #404 & #405

|            |         |         |                                       |
|------------|---------|---------|---------------------------------------|
| Series PAB | \$55.00 | \$58.00 | less housing, deduct \$6.50           |
| Series PAF | \$47.50 | \$49.00 |                                       |
| Series P   | \$33.00 | \$35.50 | Add \$3.00 for figure 6 load circuit  |
| Series PF  | \$32.50 | \$35.00 |                                       |
| Series M   | \$26.50 | \$29.50 | Add \$3.00 for figure 3 load circuit  |
| Series MF  | \$26.50 | \$29.50 |                                       |
| Series RS  | \$18.50 | \$19.00 | Add \$3.00 for steel knockout housing |
| Series LVR | \$12.00 | \$13.50 |                                       |
| Series PBM | \$19.25 | \$20.50 |                                       |

### SIGNALLING TIMERS Described in Bulletin #403

|             |         |         |
|-------------|---------|---------|
| Series S    | \$29.00 | \$31.50 |
| Series SAF  | \$29.00 | \$31.50 |
| Series SAR  | \$39.50 | \$42.00 |
| Series SARF | \$39.50 | \$42.00 |

NOTE: All timers are available in other voltages and frequencies than those shown above. Prices are available upon request.

### RECYCLING CAM TIMERS Described in Bulletin #206 (SEE NOTES)

| MODEL     | NUMBER OF SWITCHES    | 115/50, 60 | 220/50, 60 | MODEL     | NUMBER OF SWITCHES | 115/50, 60 | 220/50, 60 |
|-----------|-----------------------|------------|------------|-----------|--------------------|------------|------------|
| Series CM | Single Cam and Switch | \$20.50    | \$21.50    | Series MC | 11                 | \$115.00   | \$116.50   |
|           | 2                     | 35.50      | 37.00      |           | 12                 | 123.50     | 125.00     |
|           | 3                     | 44.00      | 45.50      |           | 13                 | 132.00     | 133.50     |
|           | 4                     | 52.50      | 54.00      |           | 14                 | 140.50     | 142.00     |
| Series MC | 5                     | 60.50      | 62.00      |           | 15                 | 149.00     | 150.50     |
|           | 6                     | 69.00      | 70.50      |           | 16                 | 157.50     | 159.00     |
|           | 7                     | 77.50      | 79.00      |           | 17                 | 166.00     | 167.50     |
|           | 8                     | 86.00      | 87.50      |           | 18                 | 174.50     | 176.00     |
|           | 9                     | 94.50      | 96.00      |           | 19                 | 183.00     | 184.50     |
|           | 10                    | 106.50     | 108.00     |           | 20                 | 191.50     | 193.00     |

U.S. HIGHWAY 287  
PARSIPPANY, NEW JERSEY, 07054

**INDUSTRIAL  
TIMER**  
CORPORATION



1538 ESPERANZA STREET  
LOS ANGELES, CALIFORNIA, 90023

# SINGLE CYCLE CAM TIMERS Described in Bulletin #206 (SEE NOTES)

| MODEL     | NUMBER OF SWITCHES    | 115/50, 60 | 220/50, 60 | MODEL     | NUMBER OF SWITCHES | 115/50, 60 | 220/50, 60 |
|-----------|-----------------------|------------|------------|-----------|--------------------|------------|------------|
| Series RA | Single Cam and Switch | \$30.50    | \$33.00    |           | 10                 | \$122.00   | \$124.50   |
|           | 1                     | 42.50      | 45.00      |           | 11                 | 131.00     | 133.50     |
|           | 2                     | 50.50      | 53.00      |           | 12                 | 139.00     | 141.50     |
|           | 3                     | 59.50      | 62.00      |           | 13                 | 147.50     | 150.00     |
| Series RC | 4                     | 68.00      | 70.50      | Series RC | 14                 | 156.00     | 158.50     |
|           | 5                     | 76.50      | 79.00      |           | 15                 | 164.50     | 167.00     |
|           | 6                     | 85.50      | 88.00      |           | 16                 | 173.00     | 175.50     |
|           | 7                     | 93.00      | 95.50      |           | 17                 | 181.50     | 184.00     |
|           | 8                     | 102.00     | 104.50     |           | 18                 | 189.50     | 192.00     |
|           | 9                     | 114.00     | 116.50     |           | 19                 | 198.50     | 201.00     |

- NOTE: 1 Because of torque requirements some RCD, MCD, RCI and MCI timers require the installation of a high torque motor. For RCD and MCD timers the high torque motor adds \$27.50 to the price of the timer. For those RCI and MCI timers requiring a high torque motor add \$29.50. See formula \* If there is any question of when the high torque motors are required please contact the factory for advice.
- 2 Each cam timer is supplied with one gear rack. Additional gear racks are \$1.75 each, quantity discount does not apply.
- 3 The prices for the RC timers include an additional motor control switch. For example; a 6 switch unit actually has 7 cams and switches.
- 4 Add \$60.00 for 8.5 watt 50 cycle motor.

## SERIES 600 CAM TIMER Described in Bulletin #206

| MODEL      | NUMBER OF LOAD SWITCHES | 115/50, 60 CYCLES | 220/50, 60 CYCLES |
|------------|-------------------------|-------------------|-------------------|
|            | 1                       | \$17.00           | \$18.00           |
|            | 2                       | 23.00             | 24.00             |
|            | 3                       | 29.00             | 30.00             |
| Series 600 | 4                       | 35.00             | 36.00             |
|            | 5                       | 41.00             | 42.00             |
|            | 6                       | 47.00             | 48.00             |
|            | 7                       | 53.00             | 54.00             |

## SERIES 650 CAM TIMER Described in Bulletin #206

| MODEL      | NUMBER OF LOAD SWITCHES | 115/50, 60 CYCLES | 220/50, 60 CYCLES |
|------------|-------------------------|-------------------|-------------------|
|            | 2                       | \$25.50           | \$27.50           |
|            | 3                       | 31.50             | 33.50             |
| Series 650 | 4                       | 37.50             | 39.50             |
|            | 5                       | 43.50             | 45.50             |

## SERIES CLV, ALL TIME CYCLES Described in Bulletin #208

|                | 115/60 CYCLES | 220/50, 60 CYCLES |
|----------------|---------------|-------------------|
| CLV-1 switch   | \$ 8.25       | \$ 9.25           |
| CLV-2 switches | 9.10          | 10.10             |
| CLV-3 switches | 9.95          | 10.95             |
| CLV-4 switches | 10.80         | 11.80             |

## SERIES MCK MULTI-CAM TIMER KIT Described in Bulletin #206

|              |          |
|--------------|----------|
| Series MCK-1 | \$355.00 |
|--------------|----------|

## RCK-1 SATELLITE KIT

\$97.50 Ea.

## MULTI-CAM SWITCHING DEVICES Described in Bulletin #206

| TYPE  | A                       | B                       | C                       | D                       | E                                                                               |
|-------|-------------------------|-------------------------|-------------------------|-------------------------|---------------------------------------------------------------------------------|
|       | \$8.50                  |                         |                         |                         | List price plus \$2.50 for short extension. (specify single cycle or recycling) |
| Price | List price<br>*See Note | List price<br>*See Note | List price<br>*See Note | List price<br>*See Note | List price<br>*See Note                                                         |

\*NOTE: List prices may be found under MC Cam Timers, these prices are determined by the number of switches. Type E is also available with single cycle control, for this unit see prices under Series RC multi switch cam timers.

## RUNNING TIME METERS Described in Bulletin #705

| MODEL    | MINIMUM REGISTRATION | MAXIMUM REGISTRATION | 115/50, 60 CYCLE | 220/50, 60 CYCLE |
|----------|----------------------|----------------------|------------------|------------------|
| C2 C25   | 1/10 hour            | 10,000 hours         | \$20.00          | \$21.50          |
| C2A C25A | 1 hour               | 100,000 hours        | 20.00            | 21.50            |
| C2D C25D | 1/10 minute          | 10,000 minutes       | 20.00            | 21.50            |
| C2F C25F | 1 minute             | 100,000 minutes      | 20.00            | 21.50            |
| C2G C25G | 1/10 second          | 10,000 seconds       | 20.00            | 21.50            |
| C2H C25H | 1 second             | 100,000 seconds      | 20.00            | 21.50            |

(Continued)

# **RUNNING TIME METERS** Described in Bulletin #705 (continued)

|                  |     |             |                 |         |         |
|------------------|-----|-------------|-----------------|---------|---------|
| Series <b>C4</b> | C4  | 1/10 hour   | 10,000 hours    | \$16.50 | \$17.00 |
|                  | C4A | 1 hour      | 100,000 hours   | 16.50   | 17.00   |
|                  | C4D | 1/10 minute | 10,000 minutes  | 16.50   | 17.00   |
|                  | C4F | 1 minute    | 100,000 minutes | 16.50   | 17.00   |
|                  | C4G | 1/10 second | 10,000 seconds  | 16.50   | 17.00   |
|                  | C4H | 1 second    | 100,000 seconds | 16.50   | 17.00   |

# **RESET TIME TOTALIZERS** Described in Bulletin #705

|                  |     |             |                 |         |         |
|------------------|-----|-------------|-----------------|---------|---------|
| Series <b>C5</b> | C5  | 1/10 hour   | 10,000 hours    | \$42.50 | \$43.50 |
|                  | C5A | 1 hour      | 100,000 hours   | 43.50   | 44.50   |
|                  | C5D | 1/10 minute | 10,000 minutes  | 43.50   | 44.50   |
|                  | C5F | 1 minute    | 100,000 minutes | 43.50   | 44.50   |
| Series <b>C7</b> | C7  | 1/10 hour   | 10,000 hours    | \$34.50 | \$35.50 |
|                  | C7A | 1 hour      | 100,000 hours   | 35.50   | 36.50   |
|                  | C7D | 1/10 minute | 10,000 minutes  | 35.50   | 36.50   |
|                  | C7F | 1 minute    | 100,000 minutes | 35.50   | 36.50   |

# **HERMETICALLY SEALED RUNNING TIME METERS** Described in Bulletin #705

|                  | MODEL | MINIMUM<br>REGISTRATION | MAXIMUM<br>REGISTRATION | 115 VOLTS | 220 VOLTS       |
|------------------|-------|-------------------------|-------------------------|-----------|-----------------|
|                  |       |                         |                         | 60 CYCLES | 50-OR 60 CYCLES |
| Series <b>T3</b> | T3    | 1/10 hour               | 10,000 hours            | \$38.50   | \$41.00         |
|                  | T3A   | 1 hour                  | 100,000 hours           | 38.50     | 41.00           |
|                  | T3D   | 1/10 minute             | 10,000 minutes          | 38.50     | 41.00           |
|                  | T3F   | 1 minute                | 100,000 minutes         | 38.50     | 41.00           |
|                  | T3G   | 1/10 second             | 10,000 seconds          | 38.50     | 41.00           |
|                  | T3H   | 1 second                | 100,000 seconds         | 38.50     | 41.00           |

NOTE: All Running Time Meters and Reset Time Totalizers are available in voltages other than those indicated. Prices are quoted upon request.

# **STOP CLOCK #SC-100** Described in Bulletin #705

| 115 VOLTS 60 CYCLES | 220 VOLTS 60 CYCLES |
|---------------------|---------------------|
| \$68.50             | \$71.00             |

\*For prices concerning digital readout please consult factory

# **TANDEM RECYCLING** Described in Bulletin #500

| MODEL                                    | 115/50 or 60 | 220/50 or 60 |                    |
|------------------------------------------|--------------|--------------|--------------------|
| Tandem Control Units<br>Type A or Type B | \$54.50      | \$57.00      | Control Units only |
| Series <b>ET</b><br>Timing Elements      | \$44.00      | \$47.00      | Elements only      |

# **DUAL TROL RECYCLING TIMER** Described in Bulletin #501

|                       | 115 VOLTS 60 CYCLES | 220 VOLTS 60 CYCLES |
|-----------------------|---------------------|---------------------|
| Dual Trol<br>Complete | \$77.50             | \$79.50             |
| Addl. Modules         | 27.50               | 28.50               |

# **PERCENTAGE TIMER** Described in Bulletin #500

|                  |         |         |                                       |
|------------------|---------|---------|---------------------------------------|
| Series <b>PC</b> | \$31.00 | \$33.50 | Add \$3.50 for steel knockout housing |
|------------------|---------|---------|---------------------------------------|

## EXPLOSION PROOF

| MODEL                              | 115 volt | 220 volt |
|------------------------------------|----------|----------|
| PCXP (Percentage Timer)            | \$ 86.00 | \$ 87.00 |
| RSXP (Manual Reset Interval Timer) | 74.00    | 75.00    |
| TDXP (Time Delay Timer)            | 130.00   | 133.00   |
| INTXP (Auto. Reset Interval Timer) | 134.00   | 137.00   |
| RTXP (Running Time Meter)          | 60.50    | 61.00    |
| TTXP (Reset Time Totalizer)        | 105.00   | 106.00   |
| CMXP (Single Cam Timer)            | 57.00    | 58.00    |

## DISCOUNT SCHEDULE

|             |
|-------------|
| 1-3 - net   |
| 4-5 - 5%    |
| 6-11 - 10%  |
| 12-24 - 15% |
| 25-49 - 20% |
| 50-up - 25% |

\*Explosion Proof Timers only

## SERIES MCXP MULTI CAM TIMERS

| NO. OF SWITCHES | 115 volt | 220 volt | NO. OF SWITCHES | 115 volt | 220 volt |
|-----------------|----------|----------|-----------------|----------|----------|
| 2               | \$118.00 | \$119.00 | 10              | \$274.00 | \$275.00 |
| 3               | 125.00   | 127.00   | 11              | 282.00   | 283.00   |
| 4               | 134.00   | 135.00   | 12              | 290.00   | 291.00   |
| 5               | 142.00   | 143.00   | 13              | 298.00   | 304.00   |
| 6               | 150.00   | 151.00   | 14              | 306.00   | 307.00   |
| 7               | 158.00   | 159.00   | 15              | 314.00   | 315.00   |
| 8               | 166.00   | 167.00   | 16              | 322.00   | 323.00   |
| 9               | 174.00   | 175.00   | 17              | 330.00   | 331.00   |
| HOUSING CHANGE  |          |          | 18              | 338.00   | 340.00   |
|                 |          |          | 19              | 346.00   | 348.00   |

## SERIES RCXP SINGLE CYCLE MULTI CAM TIMER

| NO. OF SWITCHES | 115 volt | 220 volt | NO. OF SWITCHES | 115 volt       | 220 volt |
|-----------------|----------|----------|-----------------|----------------|----------|
| 1               | \$124.00 | \$127.00 | 9               | HOUSING CHANGE |          |
| 2               | 132.00   | 135.00   | 10              | \$280.50       | \$283.00 |
| 3               | 140.00   | 143.00   | 11              | 288.50         | 291.50   |
| 4               | 148.00   | 151.00   | 12              | 296.50         | 299.50   |
| 5               | 156.50   | 159.00   | 13              | 304.50         | 307.50   |
| 6               | 164.50   | 167.00   | 14              | 312.50         | 315.50   |
| 7               | 172.50   | 175.00   | 15              | 320.50         | 323.50   |
| 8               | 180.50   | 183.00   | 16              | 329.00         | 332.00   |
|                 |          |          | 17              | 337.00         | 340.00   |
|                 |          |          | 18              | 345.00         | 348.00   |
|                 |          |          | 19              | 353.00         | 356.00   |

## Prices

All prices quoted F.O.B. our plant at Parsippany, N.J.

## Terms

1% 10 net 30 days. Unless otherwise specified, shipments will be prepaid and transportation charges added to the invoice.

## Claims

Any claims for shortage in shipments should be made within ten days (10) of receipt of material.

## Taxes

In addition to prices and terms quoted, any occupational sales, excise or use Tax either Federal, State or City shall be payable by buyer because of transaction under effective statute.

## Credit

All orders subject and contingent upon credit approval of our credit department.

## Contingencies

All orders accepted are subject to the following contingencies. Labor shortage, material shortage, transportation embargoes, war, fire, strikes, lockouts, government work on direct or subcontract, government curtailment of industry, etc. We assume no liability for partly filled or unfilled orders.

## Errors

Stenographic and clerical errors are subject to correction.

## Responsibilities

The Industrial Timer Corporation assumes no responsibilities for damage to apparatus and personal injury due to improper installation or maintenance of time controls.

## Guarantee

All our timer units are guaranteed against defective material and workmanship for a period of one year from date of shipment from our factory. This guarantee is limited to the repair or replacement of any parts or material which is proven to be defective. No responsibility is assumed for repairs made to our time controls outside our factory. Repairs to timers in the field in most cases are impractical. Timers requiring servicing should be shipped, prepaid, to our Repair Department, U.S. Highway 287, Parsippany, N.J., with a letter explaining the nature of the trouble.

## Conditions

All orders are subject to conditions set forth above and no agreement or other understanding in any way modifying these conditions shall be binding upon the seller unless made in writing and accepted after the signature of an authorized executive of the Industrial Timer Corporation.

U.S. HIGHWAY 287  
PARSIPPANY, NEW JERSEY, 07054INDUSTRIAL  
TIMER  
CORPORATION1538 ESPERANZA STREET  
LOS ANGELES, CALIFORNIA, 90023